R E P O R T R E S U M E S

ED 015 792 PS 000 362

THE EVALUATION OF PROJECT HEAD START--A CONCEPTUAL STATEMENT.

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EDRS PRICE MF-$0.25 HC-$0.72 16P.

DESCRIPTORS- *EDUCATIONAL PLANNING, *ACTION RESEARCH, *PRESCHOOL PROGRAMS, *PROGRAM EFFECTIVENESS, *CONCEPTUAL SCHEMES, COST EFFECTIVENESS, CHILD DEVELOPMENT, ENRICHMENT EXPERIENCE, HEADSTART

EVALUATION OF HEADSTART HAS AS ITS GENERAL CRITERION OF EFFECTIVENESS THE RATIO BETWEEN COST AND BENEFIT. IF THE LATTER CAN BE DEMONSTRATED TO JUSTIFY THE FORMER, THE INTERVENTION PROJECT IS A GOOD INVESTMENT IN TERMS OF IMMEDIATE HELP FOR THE DISADVANTAGED PRESCHOOLER AND IN LONG RANGE BENEFITS FOR HIS FAMILY, COMMUNITY, AND SOCIETY. IN TERMS OF A MODEL, INPUT (POPULATION) PLUS OPERATIONS (PROGRAM ATTRIBUTES) MUST YIELD OUTPUT (CHANGES IN POPULATION ATTRIBUTES). IT IS DIFFICULT TO ASSESS AN OVERALL PROGRAM WHICH HAS SUCH A LARGE NUMBER OF VARIABLES, BUT HEADSTART GOALS CAN BE TRANSLATED INTO OPERATIONAL DIMENSIONS. THUS, THE PHYSICAL AND MENTAL HEALTH, SOCIAL ATTITUDES AND BEHAVIOR, AND COMMUNICATION SKILLS OF THE CHILDREN BECOME SOME OF THE OUTPUT VARIABLES WHICH CAN BE MEASURED BY PRE- AND POST-TESTING. METHODS OF ASSESSMENT OF THESE VARIABLES INCLUDE THE USE OF STANDARDIZED TESTS, NEW TESTS DEVELOPED SPECIFICALLY TO MEASURE DISADVANTAGED POPULATIONS, FILES ACCUMULATED AT HEADSTART CENTERS, AND CLASSROOM OBSERVATIONAL PROCEDURES. APPLIED RESEARCH WILL BE EMPHASIZED IN THE 13 EVALUATION AND RESEARCH CENTERS THROUGHOUT THE COUNTRY WHICH WILL IMPLEMENT THE ONGOING EVALUATION. BOTH CROSS-SECTIONAL AND LONGITUDINAL EVALUATION DESIGNS WILL BE NEEDED TO MEASURE HEADSTART'S SHORT AND LONG RANGE EFFECTS. (MS)

ED015792

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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A CONCEPTUAL STATEMENT.

John W. McDavid, Director
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THE BASIC CONCEPT OF PROJECT HEAD START

Project Head Start was designed not merely as a preschool readiness program, but as a comprehensive intervention into the entire process of early childhood development. Many aspects of the child's development are to be served, with basic objectives including improvement of the child's physical and mental health, emotional and social development, conceptual and verbal skills, self-confidence and aspirations, family relations, and attitudes toward society and social institutions. The program is oriented toward affecting the child as an individual most directly, but is secondarily intended to influence the family and community to which he belongs. Head Start is not a uniform action program dealing with a uniform population. It deals, in various sections of the nation and under various circumstances, with a variety of subpopulations differing in age, ethnic origin, family stability, degree of socio-cultural impoverishment, physical health, or other dimensions. The nature of organized intervention provided by Head Start in the early development of these children may vary according to available physical and personnel resources, or educational philosophies of those who administer the program. Furthermore, Head Start is designed to produce multidimensional long range change in the population that it serves, rather than a single intended immediate outcome.

The Division of Research and Evaluation of Project Head Start is responsible to its larger administrative structure, the Community

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Action Program of the Office of Economic Opportunity, to provide data reflecting the overall national effectiveness of the Head Start program. The general criterion of effectiveness is, in the final analysis, one of cost/benefit ratio. It must eventually be demonstrable that investments of money, time, and effort in the Head Start concept do in fact yield benefits which justify that investment.

Professionals who have worked within the area of early childhood development are inclined to assume on faith that the Head Start concept is a sound one. However, the Division of Research and Evaluation is charged with the responsibility of generating hard empirical data to demonstrate that the Head Start concept of broad-scale intervention in the developmental process can interrupt the poverty cycle and optimize the integration of disadvantaged children into the mainstream of our society. While the efficacy of intervention through preschool programs to facilitate the development of middle-class children has been demonstrated in a variety of ways, there has been little exploration of similar kinds of intervention with economically disadvantaged children and their families. Thus, the Division of Research and Evaluation is charged with the task of demonstrating the replication of what we know about middle-class children with a new kind of population, as well as with generating new ideas and innovations with respect to maximizing effective kinds of intervention with disadvantaged children.

While the direct impact of Project Head Start is upon the individual child, as a national action program it is intended to produce a considerably broader impact upon the family, the educational system, and eventually the adult society in which these children will participate. In this sense, the immediate and short-range effects of Head

Start participation upon the child are merely intermediate instrumental steps toward the alleviation of a set of social problems which stem primarily from the fact of economic poverty. Consequently, certain of the primary objectives of Head Start cannot, by their very nature, be ascertained and evaluated until some years in the future. Yet a strict and literal cost/benefit criterion of effectiveness would require gauging these effects immediately.

For these reasons, the basic national evaluation of Head Start cannot immediately execute a full and comprehensive evaluation of the program's true effectiveness; however, it can assess certain specific shorter range impacts of the program upon the child and his family, and provide accompanying supportive argument and evidence that these shorter-range effects may in turn link to the intended longer-range goals of Head Start.

A GENERAL MODEL FOR THE EVALUATION OF PROJECT HEAD START

The basic concept of Head Start described above can be represented by a "system" model in which certain operations (the comprehensive preschool Head Start program) are carried out on certain populations (preschool age children and their families) to produce certain outcomes or changes (objectives or goals of the Head Start endeavor). This model can be schematized:

INPUT (population attributes)	X	OPERATIONS (program attributes)	⟶	OUTPUT (changes in population attributes or emergence of new attributes)

In essence, this model suggests that any output variable may be related to the interaction of input variables and operations variables. The

model need not imply any particular kind of investigative design, although it does imply the need for multivariate exploration. A correlational approach derived from this model might explore multiple correlations of a set of input and operations measures with a set of output measures. Or an analysis of variance approach might be derived to investigate the interaction of input and operations classifications in determining output dependent variable measures.

Basic Units of Analysis. The model defines, implicitly, two basic units of investigation in the predictor or independent variable categories (input and operations): the basic unit of analysis for input is the child: that for operations is the class.

(a) INPUT Variables. The individual child is the primary basic unit for definition of input variables. However, Head Start's conception of the child is a comprehensive one: it includes not only the child as a biological organism, but also as a member of a family, a community, or other social systems. His participation in such social systems is a part of the broader conception of him as an individual. In this category are included physical attributes (e.g., sex, age, racial origin, physical health and make-up, etc.), socio-cultural attributes (e.g., economic level of his family, ethnic background, community background, linguistic environment, family structure and stability, etc.), attitudinal attributes (toward himself, his family, his school, his community, or other social institutions and individuals), and behavioral attributes (e.g., aggressiveness, sociability, initial cognitive-intellectual abilities, etc.) as they characterize the child prior to exposure to Head Start program operations.

(b) OPERATIONS Variables. The basic meaningful unit for assessing Head Start's operation is the classroom unit. This is the social milieu in which the operations of a Head Start program are carried out, and is thus the minimum homogeneous unit of program operation. Although various classes within a particular Head Start Center (or set of centers) may be relatively homogeneous, it is nevertheless more appropriate to attempt to characterize program operations at the level of the class of 15-20 children who comprise a meaningful group under the coordinating direction of one primarily responsible teacher. In this category of variables are included characteristics of the physical context in which the program operates (e.g., physical plant and materials, indoor and outside space and facilities, toys and educational materials, etc.), the adult personnel who implement the program (e.g., their personal and behavioral attributes, their attitudes, their qualifications and training, their exposure to and interaction with each child), the peer-group of the class (e.g., their collective characteristics in terms of age, sex, or racial distribution, their average intellectual ability or average socio-economic status, their structure and function as a group, etc.), the services offered by the program (e.g., medical-dental diagnosis and treatment, psychological diagnosis and treatment, social services to the family, etc.), and the curricular patterns of the program (e.g., the formal characteristics of organized activity in the classroom, availability and usage of materials in direct training, both within and outside the classroom, specific modification of behavior through systematic modeling or reinforcement, etc.).

(c) OUTPUT Variables. Although the basic unit for analysis of output dimensions within this model is the input unit of the individual child,

the output impact of Head Start is likely to extend broadly beyond the individual child and his family. It is most pertinent to assess direct changes in the individual child (both behavioral -- including cognitive, affective, and motivational dimensions, -- as well as physical -- including medical health, nutrition, and the like, -- and social -- including the child's interactions within his family, his school, his peer-group, or his community. But evaluative assessment should extend further into the family (e.g., with respect to parent-child interaction, parental expectations and aspirations, modification of parental attitudes and behaviors not only toward the child but also toward the social institutions in which he participates, including his peer-group, his school, and his community). It may even extend further to evaluation of the impact of Head Start upon school systems and communities themselves as systems in which Head Start children now or eventually will participate.

The basic responsibility of the Division of Research and Evaluation for the overall evaluation of Head Start's effectiveness requires the accumulation of information about specific output variables which represent translations of the stated goals of Head Start into operational dimensions. Consequently, the output dimensions evaluated must include assessment of such variables as the child's :

1. physical health
2. cognitive and intellective functions
3. motivational characteristics (including particularly achievement motivation and goal-setting behavior with respect to learning and education)
4. communication skills
5. social behavior and peer interaction
6. attitudes toward authority and adult-child interaction
7. attitudes toward himself (self-esteem, self-confidence, and aspirations)
8. attitudes and behavior with respect to his family, his school, his community, and social systems in which he participates.

Methods of Assessment. No single method of assessment is suitable for all of the pertinent dimensions on which the Head Start program should be evaluated. A variety of methodological approaches will be required, according to the nature of variables explored within any given aspect of the evaluation program.

(a) Standardized Tests. Whenever possible, standardized tests should be used for evaluational assessment, both for economy and to facilitate integration of evaluative research findings with other literature on early childhood development. However, a standard instrument should not be used in the face of strong evidence of its inappropriateness for use with disadvantaged children.

(b) Development of New Tests and Procedures. The development of new tests and procedures for measuring pertinent dimensions should be an integral part of the overall evaluation effort of Project Head Start, especially because most existing tests have been designed for and standardized with middle-class populations of children and thus are likely to be less suitable for use with Head Start populations. New instruments may be required for the measurement of variables for which no standardized instrument currently exists. But it may be unwise to develop new instruments hurriedly on the assumption that existing instruments are inappropriate for disadvantaged children without accompanying empirical investigation to determine the particular dimensions or qualities which make them inappropriate.

(c) Files and Records. The administration of a Head Start program necessarily requires the accumulation of a considerable amount of file material on each child as well as upon the facilities and operation of the program and its personnel. These are important sources of data which should

be exploited fully, especially in order to minimize excessive requests of Head Start personnel to respond to questionnaires and interviews.

(d) Observational Procedures. Despite their cost in time, effort, and expense of development, direct observational procedures may be required to secure certain pertinent data. Since standardized observation is essentially a form of testing (i.e., sampling behavior), the development of new procedures in this category should be an integral part of the overall Research and Evaluation program, and should proceed in the same manner as the development of new test instruments. Procedures of this type are particularly pertinent to the assessment of program operations carried out in the Head Start class unit.

EVALUATION DESIGNS: The multifaceted nature of Head Start's output goals requires more than one kind of evaluation design. Because Head Start's purpose is to bring about changes in attributes of the child and his family, these designs are basically of the "with/without" variety. In one type, a "pre/post" design, each child may serve as his own control, with output change measured by a comparison of some measure obtained prior to his exposure to Head Start and a parallel measure obtained afterward. In another type of design, measures on a child may be compared against measures on a matched counterpart who has not had such Head Start exposure (the control alter, in this sense, representing a "sans Head Start" measure). The second design may be somewhat more difficult to implement, since Head Start children and families are normally not randomly selected from the disadvantaged population, and are thus not necessarily directly comparable to those who do not participate in the program. The disadvantaged population is often an invisible and inaccessible one, further complicating the attempt to secure baseline data for evaluation of Head

Start participants.

(a) Cross-sectional Designs. Certain kinds of useful information may be derived through cross-sectional assessments of Head Start. Designs which compare various subpopulations of Head Start children, or various treatment differences within Head Start programs, may be useful. Cross-sectional evaluation of the external impact of Head Start programs on the community, schools, or the public in general may supply important evaluative information.

(b) Short-range Change. Additional useful information is needed about the immediate and short-term impact of Head Start upon the child and his family. Ideally, "pre-Head Start" assessment should begin prior to the child's initial contact with Head Start, but this is practically impossible within the subject-as-his-own-control design in most cases. However, it might be conceivable to compare Head Start children with matched controls in a community where no Head Start has ever existed; or to test potential Head Start populations prior to the establishment of a Head Start center in the community. Both would be troublesome and costly to execute, but this kind of exploration may be warranted in order to illuminate "Hawthorne effects" in the evaluation of Head Start children. The very fact of registration and entry into a Head Start program may produce some change in children and their families, or may be systematically associated with certain "volunteer" characteristics of the Head Start population, or with selectivity in the location of Head Start centers.

With increasing intervals of exposure to Head Start intervention, a variety of changes in the child and his family may occur. Since there presently exists little empirical basis for anticipating the speed with which particular change dimensions become apparent as a consequence of

Head Start intervention, a broad range of explorations of a variety of variables measured over a variety of intervals will be required to gain full knowledge of Head Start's short-range impact. It is difficult to define a priori the points in time which best define "pre" and "post", and a broad empirical effort must be undertaken to answer these questions.

(c) Long-range Change. The ultimate effectiveness of Head Start as an interruption of the poverty cycle can be evaluated only with extended longitudinal approaches. The fact that Head Start has existed less than three years directly precludes this kind of investigation for the immediate future. However, the current data-collection efforts of the Research and Evaluation program must be planned to optimize the utility of these data for storage and eventual use in future long-range longitudinal studies. Provision has been made for a limited amount of data storage, but it is important that data collected in current research and evaluation not only be stored, but that the conditions of their collection be fully and accurately recorded, and that each item of data be fully identified with respect to its source.

Provision must be made for longitudinal studies which follow Head Start children to assess their continued developmental progress. Attrition may be particularly great because of the characteristic mobility of the disadvantaged population, but opportunities to continue longitudinal studies may occur through cooperation with public school systems.

In the absence of opportunity for direct longitudinal investigations in the immediate future, an alternative approximation of evaluation of long-range effectiveness of Head Start may be developed through investigations of dimensions of short-term change as intermediate consequences which are related to the longer-range objectives of Head Start. Changes in family

structure and parent-child interaction patterns may be particularly meaningful in terms of sustained modification of the child's developmental context beyond the duration of his Head Start experience. Changes in motivational, attitudinal, value, or interest patterns may be pertinent to long-range change.

IMPLEMENTATION OF THE RESEARCH AND EVALUATION PROGRAM

It is important that the concepts of Research and Evaluation not be widely divergent. The model for evaluation described in this statement is essentially a model for research. The very fact of the novelty of the Head Start program and the lack of prior direct knowledge of the nature of the disadvantaged lower-class population to which Head Start is addressed make necessary a certain amount of preliminary investigation before adequate evaluational data can be secured. Pertinent dimensions must be identified and instruments must be developed to permit their measurement. Previous research findings based on middle-class populations must suffer replication to ascertain their generalizability to the disadvantaged populations. Descriptive data must be accumulated to permit full description of Head Start's population and program characteristics as they in fact exist at the level of actual implementation of stated ideals and goals. It would seem unwise to attempt a sharp delineation of the boundary between research and evaluation.

However, it will be necessary to recognize that the research conducted within this program is by definition applied research. Such recognition need not connote a sharp dichotomy between "basic" and "applied" research. Applied research is simply that which is guided by some attribute of immediate applicability to a practical need. The financial support of Head Start's research program requires that our research efforts

be applicable to the task of assessing the effectiveness of Head Start as a social action program, but this does not necessarily imply that such applied research is expected to produce only certain "desirable" findings.

The central office in Washington of the Division of Research and Evaluation functions as a coordinating agency so that the activities of individuals and agencies with whom it contracts can be integrated into an overall pattern which fulfills the need for evaluation of a national action program.

The Research and Evaluation program is carried out through several means:

(a) Regional Evaluation and Research Centers. A basic set of 13 contracted University Centers for Head Start evaluation and research, appropriate to the inherent diversity of Head Start operations in various sections of the nation, conduct a continuing program of evaluation, using common procedures within an overall coordinated design.

The independent research activities of the E & R Centers are generally planned to facilitate some degree of integration of findings, cross-validating replications of studies, and exchange of data among centers. Otherwise, their research activities are conducted and administered in the same manner as independently contracted research investigations.

The sampling design for 1967-68 is focused upon the individual class unit. Data are collected according to a general "pre/post" design. Common instruments and procedures are used to evaluate dimensions defined by the general overall concept and objectives of Project Head Start. The Regional E & R Centers address their efforts primarily toward the internal evaluation of Head Start's operation, with limited excursion into family impact and community impact. Information for evaluating the latter is

secured through other sources, while the E & R Center evaluation is addressed to the individual child and classroom unit. It might be possible to evaluate a non Head Start population using identical data-collection procedures to provide a general and nonspecific control for interpretation of the findings of the 13 E & R Centers, but it would be important NOT to consider this a genuine control in a precise sense, but merely as a non-specific point of reference for interpretation of the data from the national evaluation sample. Neither Head Start participants nor non-participants are randomly representative of a single population, and care must be taken in interpreting comparisons of the two groups.

(b) Individual Research and/or Demonstration Contracts. In areas extending beyond the function of the Regional Centers, the Head Start Evaluation and Research program is carried out through contracts for smaller packaged evaluative investigations. These contracts are awarded within the framework of an overall design, according to the merits of proposals in terms of their supplementation of the overall evaluation program. An announcement outlining the overall intent of the Division of Research and Evaluation is prepared for national distribution among professional researchers in pertinent areas.

The politically sensitive nature of Head Start as a controversial national action program requires particular caution with respect to the issues of "informed consent" of subjects in research investigations and of "invasions of privacy" in the use of questionnaires and other procedures for collecting data about individuals and the storage of information about people in data banks. It is necessary for the Head Start Research and Evaluation office to remain especially sensitive to these issues and to protect both investigator and subjects. Unfortunately, certain categories

of data which are of genuine significance in research on the preschool child and his relationships with his family and social institutions may have to be sacrificed regardless of their relevance to the overall research and evaluation program. It is necessary that OEO-funded investigators secure, through the Head Start Research and Evaluation office, clearance for all questionnaires, tests, or procedures employed in the collection of data.

CONTINUITY OF THE RESEARCH AND EVALUATION PROGRAM

Continued implementation of the Head Start research and evaluation program is contingent upon the overall future of Head Start as an action program, but the Division of Research and Evaluation operates under the working assumption that Head Start will continue and that its parallel research and evaluation efforts will continue. Provision should be made for accumulation and storage of fully-identified data for potential use in future longitudinal studies. Longitudinal studies following Head Start children through their elementary school years are appropriate, within the limitation of available funds which necessarily restricts the duration over which studies can be funded. Each succeeding year's evaluation and research program should be formulated upon the results of the preceding year's effort.

Periodic integrations of research and evaluation findings are prepared from time to time by the central office professional staff, occasionally enlisting the collaboration of distinguished professional consultants according to the nature of emergent findings.

As rapidly as accumulating information permits, research and evaluation efforts should move into a phase of testing specific hypotheses and

expected relationships. For the present, such hypothesis-testing remains somewhat limited, since our reservoir of information about pertinent variables and methods for their assessment remains limited. As the program evolves, it will be possible to develop specific recommendations for maximizing the effectiveness of Head Start, and the conduct of evaluative research to ascertain the merit of these recommendations.

At this stage, it becomes increasingly important to provide for the establishment of experimental demonstration projects in which interventive practices which have been found (in laboratory studies or through the general national evaluation) to optimize attainment of Head Start's stated goals, can be evaluated carefully and demonstrated for adoption by other Head Start programs.

The general framework described here, governs the general policy structure of Head Start's Research and Evaluation program, and guides decisions on fund allocations and continuing program planning for future years.